

Geometry 1.1 Understanding Points, Lines, and Planes Study Guide (pp 6-8)

Attendance Problems

Term	Definition
1. ____ Coordinate	A. A mathematical phrase that contains operations, numbers, and/or variables. B. The measurement system often used in the United States C. One of the numbers of an ordered pair that locates a point on a coordinate graph. D. A list of rules for evaluating expressions E. A decimal system of weights and measures that is used universally in science and commonly throughout the world
2. ____ Metric System of measurement.	
3. ____ Expression	
4. ____ Order of operations.	

For each object tell which is the better measurement.

5. Height of a classroom: 5 ft or 10 ft

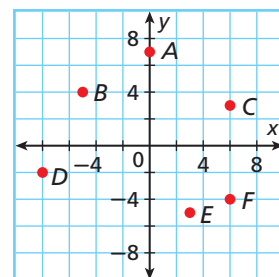
6. Length of a dollar bill: 15.6 cm or 35.5 cm

7. Simplify: $24 - 3y + y + 7$

8. Evaluate: $3n - 3$ for $n = 16$

9. Write the ordered pair for points A & F.

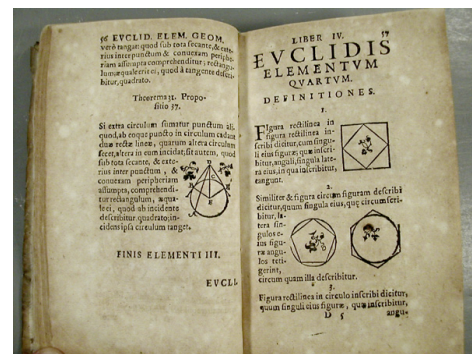
- I can identify, name, and draw points, lines, segments, rays, and planes.
- I can apply basic facts about points, lines, and planes.




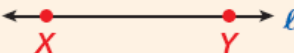
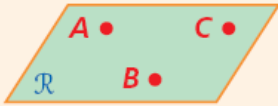
Geometry 1.1 Understanding Points, Lines, and Planes Study Guide (pp 6-8)

Common Core: CC.9-12.G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

The most basic figures in geometry are **undefined terms**, which cannot be defined by using other figures. The undefined terms *point*, *line*, and *plane* are the building blocks of geometry.



Undefined Terms

TERM	NAME	DIAGRAM
A point names a location and has no size. It is represented by a dot.	A capital letter point P	
A line is a straight path that has no thickness and extends forever.	A lowercase letter or two points on the line line l , XY or YX	
A plane is a flat surface that has no thickness and extends forever.	A script capital letter or three points not on a line plane R or plane ABC	

10. In geometry, what does a prefix of co- imply?

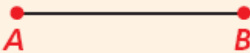
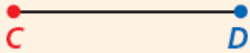


11. Compare and contrast collinear and noncollinear points.

12. Compare and contrast coplanar and noncoplanar points.

Geometry 1.1 Understanding Points, Lines, and Planes Study Guide (pp 6-8)

Refer to example 1 on page 6.

Segments and Rays

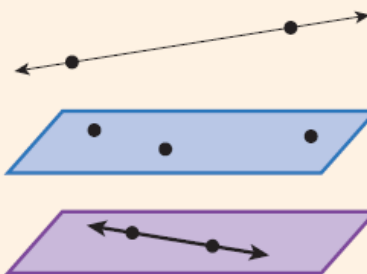
DEFINITION	NAME	DIAGRAM
A segment , or line segment, is the part of a line consisting of two points and all points between them.	The two endpoints \overline{AB} or \overline{BA}	
An endpoint is a point at one end of a segment or the starting point of a ray.	A capital letter C and D	
A ray is a part of a line that starts at an endpoint and extends forever in one direction.	Its endpoint and any other point on the ray \overrightarrow{RS}	
Opposite rays are two rays that have a common endpoint and form a line.	The common endpoint and any other point on each ray \overrightarrow{EF} and \overrightarrow{EG}	

Refer to example 2 on page 7.

13. What is a postulate?

Postulates Points, Lines, and Planes

- 1-1-1** Through any two points there is exactly one line.
- 1-1-2** Through any three noncollinear points there is exactly one plane containing them.
- 1-1-3** If two points lie in a plane, then the line containing those points lies in the plane.



Refer to example 3 page 7.

Recall that a system of equations is a set of two or more equations containing two or more of the same variables. The coordinates of the solution of the system satisfy all equations in the system. These coordinates also locate the point where all the graphs of the equations in the system *intersect*.

An intersection is the set of all points that two or more figures have in common. The next two postulates describe intersections involving lines and planes.

Postulates

Intersection of Lines and Planes

1-1-4 If two lines intersect, then they intersect in exactly one point.

1-1-5 If two planes intersect, then they intersect in exactly one line.

Use a dashed line to show the hidden parts of any figure that you are drawing. A dashed line will indicate the part of the figure that is not seen.

Geometry 1.1 Understanding Points, Lines, and Planes Study Guide (pp 6-8)

Refer to Video Example 4.

A) Draw two lines that are intersecting.

B) Draw two planes that intersect in one line.

C) Sketch a second line that intersects both planes, but does not lie in either plane.

11. Assignment: (pp 9-10) 14-30 even, 31-34, 36, 38.

